

large patches of *Polytrichum commune* were killed by a fungus, probably a *Mucor*-like organism, which grew like a white mat, smothering the moss turf, and causing the plants to die rapidly and turn brown. Just what the action of the fungus is, remains to be elucidated by investigation, but it seems probable that it kills the moss chiefly by cutting it off from the air.

Similarly a clump of *Dicranum scoparium* and a few neighboring plants of *Polytrichum Ohioense* were observed near Hyannis, Mass., to be attacked by a myxomycete. Some of these low forms creep up upon living plants before sporulation takes place. In this instance death of the capsules was induced with some amount of distortion. The materials promise interest on further study, it being of importance to determine whether in this matter the myxomycete is purely or rather superficially epiphytic, or whether it in some way attacks the deeper-lying tissues. The latter, judging from our present knowledge, is improbable.

Hypomyces. — It is worth mention that the well-known fungus *Hypomyces Lactifluorum*, parasitic on *Lactarius*, is able to propel its spores to a distance of $1\frac{1}{2}$ inches or more. This was determined in the usual fashion of obtaining a spore print. The amount of spore dust obtained in this way is quite surprising.

Having used the dried commercial material of the truffle for anatomical work, I was led to cut into small strips an affected plant of *Lactarius*. The pieces were dried, and then used dry for sectioning by free hand. *Lycoperdon* was treated similarly, with the result that when the curled dry sections are mounted for microscopic examination they are quite satisfactory for ordinary work.

In this way, therefore, the collector may preserve material for anatomical use quite successfully with little trouble.

SHORTER NOTES

LEAVES OF THE SKUNK CABBAGE. — Last July I was much impressed by the size of some leaves of the skunk cabbage growing on Long Island near the College Point water-works. The largest leaf measured $26\frac{1}{2}$ inches long by $19\frac{1}{2}$ broad. Is there record of any larger? A. J. GROUT.

A NEW FAMILY OF THE BASIDIOMYCETES.—**Xylophagaceae**. This family is based on *Xylophagus* Link, Berl. Mag. 3: 38. 1809 (*Merulius* Hall.) and allied genera formerly included in the Polyporaceae. Its distinguishing character is a gelatinous and at the same time porous hymenium. Its genera may be grouped under three subfamilies: The **Favolaschieae**, including plants wholly gelatinous both in context and hymenium, the **Xylophageae**, in which the context varies from semi-gelatinous to firm or fibrous and the **Gloeoporeae**, with firm fibrous context and a hymenium of deep cohering tubes instead of shallow reticulations. This last group approaches the Polyporaceae, but differs by reason of its separable gelatinous hymenium. The types of the three subfamilies mentioned above are *Favolaschia* Pat., *Xylophagus* Link and *Gloeoporus* Mont.

WILLIAM ALPHONSO MURRILL.

NEW YORK CITY.

A NEW OAK.—**Quercus Rydbergiana**. A small shrub about 1 m. high: bark of young branches grayish-brown, puberulent, that of the older branches and trunks gray; bud-scales bright ferruginous, slightly puberulent; petioles 3–5 mm. long, densely puberulent; leaf-blades rather long and narrow, but small, the larger about 36 mm. long and 15 mm. broad, most smaller, not over 25 mm. long, firm, lobed about half-way to midrib, lobes obliquely triangular, with rounded margins and a mucronate tip, upper surface pale bluish-green, with rather abundant pale yellow stellate pubescence, lower surface pale yellowish-green, with abundant yellowish stellate pubescence; strongly veined but hardly reticulate; fruits solitary; cup hemispheric, covering about one third of the acorn, 8 mm. broad; scales with produced blunt reddish tips, the lower scales corky-thickened on the back; acorn barrel-shaped, rather obtuse but not apically depressed, about 10 mm. long, light brown.

Hab.—Common at Las Vegas Hot Springs, New Mexico, alt. prox. 7000 feet. It is allied to *Quercus Fendleri*, but is easily distinguished by the smaller leaves with less pointed lobes. Las Vegas Hot Springs is a good locality for oaks; I collected there also *Q. Novo-Mexicana* (A. DC.) Ryd., *Q. nitescens* Ryd., *Q. Gambelii* Nutt., *Q. Fendleri* Liebm., *Q. Emoryi* Torr., and *Q.*

grisea Liebm. At Beulah, in the Canadian zone (prox. 8000 feet), the oaks were *Q. Gambelii* Nutt., and *Q. Utahensis* (A. DC.) Ryd. The new oak is named after Dr. Rydberg, who has made it possible to study the Rocky Mountain oaks with some satisfaction. The type of *Quercus Rydbergii* is in the N. Y. Botanical Garden herbarium.

T. D. A. COCKERELL.

EAST LAS VEGAS, NEW MEXICO.

INSECT VISITORS OF SCROPHULARIA LEPORELLA BICKNELL. — Some years ago when this common and widespread species was considered, along with *Scrophularia Marylandica*, as merely a variety of the Eurasian *Scrophularia nodosa* of Linnaeus, I had several patches under observation with especial reference to their cross-fertilization by insects.

Our plants, as is well known, are proterogynous, and Lubbock* states that *Scrophularia nodosa* is fertilized by wasps, the honey being distasteful to bees, thus accounting for the stigma becoming functional first, as wasps usually work downward on a flower-cluster. This was distinctly not the case with our species, for of the few insects identified † five (*i. e.*, *Bombus consimilis* Cress., *Apis mellifica* L., *Halictus ligatus* Say, *Andrena* sp., and *Augochlora humeralis* Patton) were bees and only three (*i. e.*, *Vespa maculata* L., *Vespa vulgaris* L., and *Polistes pallipes* St. Farg.) were wasps, and of these the *Bombus* was the most abundant. While the genera *Halictus*, *Andrena*, and *Augochlora* contain short-tongued bees they seemed to have no trouble in working the *Scrophularia* blossoms. Several other unidentified species were also observed visiting these flowers. I am not familiar with the current view as to whether wasps work downward on flower-clusters, but the above species most certainly did not in my experience.

It is interesting to note the admirable manner in which the economy of the flower is arranged for insect fertilization, the corolla forming a veritable saddle for the insect. The style in the young flower curves upward and leaves but a narrow space

* Flowers, Fruits, and Leaves, p. 16.

† Identifications by Professor John B. Smith.

between the stigma and the barren stamen, through which opening the insect is obliged to obtain the honey. The glandular hairs of the pedicels are absent some distance below the blossom thus offering no interference to the alighting insect. When the stamens uncoil and the pollen ripens the style becomes reflexed and the somewhat rigid stamens are forced against the insect visitor, the weight of the latter, who is always obliged to work from below, causing the blossom to sag greatly.

EDWARD W. BERRY.

PASSAIC, N. J.,
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REVIEWS

A recent Monograph of *Campanula rotundifolia* and its Allies

A monograph of *Campanula rotundifolia* and its allies has recently been issued from the University of Vienna by J. Witasek. It appears under the title "Ein Beitrag zur Kenntnis der Gattung *Campanula*."* It treats only of the species belonging to the *C. rotundifolia* group. This group is divided into 3 series, 15 superspecies and 32 subspecies. *C. rotundifolia* in a broad sense, *i. e.*, taken as a superspecies, contains 11 subspecies. Of these *C. rotundifolia* in limited sense is distributed over almost the whole of Europe and northern Asia and also credited to the southwestern United States and Mexico. The other European species are local or of very limited range, one from France and Switzerland, one from Switzerland and six from Austria, the Turkish peninsula and Italy. North America is credited with six species: *C. rotundifolia* L., *C. intercedens* Witasek, *C. petiolata* DC., *C. dubia* DC., *C. Giesekiana* Vest, *C. heterodoxa* Vest.

Campanula intercedens Witasek is our so-called *C. rotundifolia* of the eastern states. Witasek points out the following characters to distinguish it from *C. rotundifolia* of Europe: The tall habit, the long one-flowered almost erect branches of the inflorescence, the lighter color of the plant, thinner leaves and especially the hairiness of the stem. In *C. rotundifolia*, if hairy at all, the hairs are scattered all around the lower portion of the stem, while in the American plant they are confined to definite decur-

* Abh. K. K. Zoöl.-Bot. Gesellsch. Wien, 1³: 1-106. 1902.